

Technical Data Sheet

AMPCO[®] 18.23

Centrifugal Castings



Nominal composition:

Aluminium	(Al)	10.5%
Iron	(Fe)	3.5%
Others		max. 0.5%
Copper	(Cu)	balance

Mechanical and physical properties	Units	Nominal Values
Tensile strength R_m	MPa	758
Yield strength $R_{p0.5}$	MPa	386
Elongation A_5	%	16
Brinell hardness	HB 30	207
Rockwell hardness	HRB	95
Reduction of area ψ	%	16
Proportional limit R_p	MPa	214
Compressive strength R_{mc}	MPa	1034
Compressive strength, 0.1 % perm. set	MPa	345
Proportional limit in compression R_{pc}	MPa	310
Shear strength R_{cm}	MPa	421
Modulus of elasticity E	GPa	110
Charpy a_K	J	16.3
Izod a_K	J	24
Fatigue (100'000'000 cycles) σ_N	MPa	248
Density ρ	g / cm ³	7.45
Coefficient of expansion α	10 ⁻⁶ / °K	16.2
Thermal conductivity λ	W / m · °K	59
Electrical conductivity γ	m / Ω · mm ²	7.5
Electrical conductivity	% I.A.C.S.	13
Specific heat c_p	J / g · °K	0.42

Assurances given with respect to properties or uses are subject to written approval from AMPCO METAL. This heat-treated alloy is the ultimate in high-strength bronzes requiring good bearing characteristics and exceptional wear resistance.

It has greater toughness than grade AMPCO[®] 18.22 and better physical properties than grades AMPCO[®] 18 or AMPCO[®] 18.136. Its exceptional proportional limit gives it a maximum resistance to distortion, enabling the designer to take full advantage of its high physical properties.

APPLICATIONS:

AMPCO[®] 18.23 gives a successful performance under heavy loads and impact conditions and makes it a preferred material for heavy-duty worm gears and similar applications.